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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/815,563	03/23/2001	Shunpei Yamazaki	SEL 248	9704

7590 08/22/2006

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EXAMINER

MACCHIAROLO, PETER J

ART UNIT PAPER NUMBER

2879

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/815,563

Applicant(s)

YAMAZAKI ET AL.

Examiner

Peter J. Macchiarolo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6, 13-16, 18 and 30-60 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 13-16, 18 and 30-60 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

The reply filed on 03/16/2006 consists of changes to the claims and remarks related to the prior rejection of claims in the previous Office Action. The above have been entered and considered. However, pending claims 1-4, 6, 13-16, 18, and 30-60 are not allowable as explained below.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-4, 6, 13-16, 18, and 30-60 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitation in all of the independent claims, “an electroluminescent layer formed over the insulating film and the anode and in contact with a part of the anode” is unclear. For the purpose of examination, the Examiner reads, “an electroluminescent layer is formed over both the insulating film and the anode and the electroluminescent layer is in contact with a part of the anode.” The remaining claims are rejected due to their dependency.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6, 13-16, 18, 30-33, 49-55, 59 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over previously cited Beesely (USPN 5400047; "Beesely") in view of previously cited Terao et al (USPN 6133581; "Terao").

Regarding claim 1, Beesely shows in figure 4, a light emitting apparatus having at least one light emitting element over an insulator (52), the light emitting element comprising: a first electrode (64) having at least a first end portion and a second end portion formed over said insulator (52); at least one wiring (66) formed in contact with the first end portion of the first electrode (64), and wherein the wiring (66) is not part of the first electrode (64); an insulating film (56) covering at least the first and the second end portions of the first electrode (64); an electroluminescent layer (58) is formed over both the insulating film (56) and the first electrode (64) and the electroluminescent layer (58) is in contact with a part of the first electrode (64); and a second electrode(62) formed over the electroluminescent layer (58).

Beesely is silent to the first and second electrodes being anodes and cathodes, respectively, and the wiring (66) being interposed between the insulator (52) and the anode.

However, Beesely discloses the device is driven with AC power, which is known to alternate both the first and second electrodes to anodes and cathodes, respectively. Therefore,

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Beesely infers the first and second electrodes are anodes and cathodes. One would be arrive at this configuration to allow for a more stable driving power and luminescence.

Furthermore, Terao shows in figure 8c that a light emitting apparatus having a wiring (2b) on the end portion of an anode in a configuration similar to Beesely, can also be positioned between the insulator (fig. 8e, #1) and anode (2a). Terao further teaches in column 8, lines 18-27 that the positional relationship of the wirings is a matter of design choice.

Furthermore, it has been held that a mere rearrangement of parts and a matter of design choice. *In re Japikse*, 86 USPQ 70. One would be motivated to this configuration for a variety of reasons, including platform space limitations, and reducing manufacturing time and money as discussed in the Advisory Action filed 11/15/2005.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the light emitting apparatus of Beesely with the wiring configuration of Terao.

Regarding claims 2 and 3, Beesely discloses the wiring (66) is formed of a metal film of aluminum (fig. 7, #74; see also col. 4, line 45). As discussed above, Beesely is silent to the first electrode being an anode, but this configuration is well known since Beesely discloses the device operates on AC power. The reasons for combining and motivation are the same as in claim 1.

Regarding claim 4, Beesely discloses the first electrode (64) is formed of electrically conductive oxide film (ITO; see col. 5 line 6). As discussed above, Beesely is silent to the first

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electrode being an anode, but this configuration is well known since Beesely discloses the device operates on AC power. The reasons for combining and motivation are the same as in claim 1.

Regarding claim 6, Beesely shows in figure 12 an electric device (waveform generator) using an apparatus of claim 1.

Regarding claim 30, Beesely shows the wiring (66) is different in material from the first electrode (see col. 5 line 6 and also col. 4, line 45). As discussed above, Beesely is silent to the first electrode being an anode, but this configuration is well known since Beesely discloses the device operates on AC power. The reasons for combining and motivation are the same as in claim 1.

Regarding claim 31, Beesely shows the wiring (66) is made of a material lower in resistance than that of the first electrode (64). As discussed above, Beesely is silent to the first electrode being an anode, but this configuration is well known since Beesely discloses the device operates on AC power. The reasons for combining and motivation are the same as in claim 1.

Regarding claims 13 and 49, Beesely shows in figure 4, a light emitting apparatus having at least one light emitting element over an insulator (52), the light emitting element comprising: an first electrode (64, discussed above as an anode) having at least a first end portion (shown in figure 4 as left side of anode 64) and a second end portion (shown in figure 4 as right side of anode 64) formed over said insulator, the anode (64) extending in a first direction wherein each

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of the first end portion (shown in figure 4 as left side of anode 64) and the second end portion (shown in figure 4 as right side of anode 64) of the anode (64) extends along the first direction, a first (shown in figure 4 as #66 on the left) and second wiring (shown in figure 4 as #66 on the right) formed in contact with the first (shown in figure 4 as left side of anode 64) and second (shown in figure 4 as right side of anode 64) end portions of the anode (64) respectively, and extending in the first direction, and the first wiring (shown in figure 4 as #66 on the left) and the second wiring (shown in figure 4 as #66 on the right) are not part of the anode (64); an insulating film (56) covering at least the first and the second end portions of the anode (64); an electroluminescent layer (58) is formed over both the insulating film (56) and the anode (64) and the electroluminescent layer (58) is in contact with a part of the anode (64); and a second electrode (discussed in claim 1 as a cathode 62) formed over the electroluminescent layer (58) and between said cathode (62) and said insulating film (56).

Beesely is silent to the first and second electrodes being anodes and cathodes, respectively, and the wiring being interposed between the insulator and the anode.

However, as discussed above, the first and second electrodes will be anodes and cathodes.

Furthermore, as discussed above, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct Beesely's wirings between the anode and insulator in view of Terao's teachings to allow for a reduction in manufacturing time and money.

Regarding claims 14-16, 18, 32, 33, and 50-54, the limitations therein have been discussed above and will not be repeated here. The reasons for combining and motivation are the same.

Regarding claims 55, 59, and 60, Beesely shows in figure 4 the insulator (52) does not contact with the electroluminescent layer (58).

Claims 34-37 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beesely in view of Terao in further view of previously cited Kusunoki et al (USPN 6570321; "Kusunoki").

Regarding claim 34, similar limitations herein have been discussed in the rejection of claim 13 and will not be repeated here. Furthermore, it is noted that Beesely shows in figure 4 the cathode (62) is formed over the electroluminescent layer (58).

However, Beesely and Terao are silent to a first driver circuit connected to the anode and a second driver circuit connected to the cathode, and the method of mounting the driver circuits.

Kusunoki shows, however, that a first and second driver circuit is needed in a light emitting apparatus of Beesely and Terao, and mounting the driver circuits by a COG system is a known method of mounting. One would be motivated to these modifications to allow for proper operation of the device with reliable and predictable outcomes.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the device of Beesely and Terao with a first driver circuit connected to the anode and a second driver circuit connected to

the cathode, and mounting the drivers with a COG system to allow for proper operation of the device with reliable and predictable outcomes.

Furthermore, the Examiner notes that the claim limitation “mounting the drivers by a COG system” is drawn to a process of manufacturing which is incidental to the claimed apparatus. Even if arguendo, Beesely, Terao, and Kusunoki did not teach the particular mounting system, it is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject product-by-process claim limitation has been considered, but not patentably distinct over Beesely, Terao, and Kusunoki (see MPEP 2113).

Regarding claims 35-37, and 56, the limitations therein have been previously discussed above and will not be repeated here. The reasons for combining and motivation are the same.

Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beesely in view of Terao in further view of Kusunoki, in further view of previously cited Codama et al (USPN 6037712; “Codama”).

Regarding claim 38, Beesely, Terao, and Kusunoki are silent to the light emitting apparatus having a plurality of banks arranged to be orthogonal to the anode.

However, Codama shows this configuration reduces manufacturing time and increases reliability of the device.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the device of Beesely, Terao, and Kusunoki with the banks of Codama to reduce manufacturing time and increase the device's reliability.

Claims 39, 40-42, 44-47, 57, and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beesely in view of Terao in further view of Kusunoki, in further view of previously cited Yokoi et al (USPN 5962970; "Yokoi").

Regarding claims 39 and 44, the limitations therein have been discussed at rejected claim 34, but Beesely, Terao, and Kusunoki are silent to connecting the first and second stick drivers to an anisotropic electrically conductive material or a metal wire. However, it is noted that the inclusion of an anisotropic electrically conductive material or a metal wire is not shown to solve any problems or yield any unexpected results that are not within the scope of Beesely, Terao, and Kusunoki's display. Accordingly, this inclusion is considered to be an obvious matter of design choice. For example, Yokoi discloses that a stick driver can be connected to an electrode with an anisotropic electrically conductive material.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the device of Beesely, Terao, and Kusunoki including connecting first and second stick drivers to the anode and cathode through anisotropic electrically conductive material or by a metal wire to allow for easy manufacturing and proper operation.

Regarding claims 40-42, 45-47, 57, and 58, the limitations therein have been previously discussed above.

Claims 43 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beesely in view of Terao in further view of Kusunoki, in further view of Yokoi, in further view of Codama.

Regarding claims 43 and 48, Beesely, Terao, Kusunoki, and Yokoi are silent to the light emitting apparatus having a plurality of banks arranged to be orthogonal to the anode.

However, Codama shows this configuration reduces manufacturing time and increases reliability of the device.

Therefore, in view of the above discussion, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the device of Beesely, Terao, and Kusunoki with the banks of Codama to reduce manufacturing time and increase the device's reliability.

Response to Arguments

Applicant's arguments with respect to claim have been considered but are moot in view of the new ground(s) of rejection. The Examiner notes that while Beesely does not show an EL layer in direct contact with the anode, Beesely does indeed show the limitation in claim 1, "an electroluminescent layer...in contact with a part of the anode" at figure 4. The EL layer (58) is clearly in contact with a part of the anode (64) via layer 56.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Macchiarolo whose telephone number is (571) 272-2375. The examiner can normally be reached on 8:30 - 5:00, M-F.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571) 272-2475. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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PRIMARY EXAMINER